REMARKS

In the Office Action dated December 2, 2004, claims 1-4, 6-10, 13, 23, 28-29, 31, 36, 38, 44, 46 and 49-56 are pending. Claims 13, 23, 28, 29, 31, 36, 38, 44, 46 and 49-56 are withdrawn from further consideration. Claims 1-4 and 6-10 are rejected under 35 U.S.C. §112, first paragraph, for allegedly lacking enabling support. Claims 1 and 2 are rejected under 35 U.S.C. §102(b) as allegedly anticipated by Jacobs et al. Claims 1-4 and 6-10 are rejected under the judicially created doctrine of obviousness-type double patenting as allegedly unpatentable over claims 1-5 of U.S. Patent No. 6,642,359 B2.

This Response addresses each of the Examiner's rejections. Applicants therefore respectfully submit that the present application is in condition for allowance. Favorable consideration of all pending claims is therefore respectfully requested.

By way of the instant Amendment, Applicants have added claims 57-59. Support for claims 57-59 is found in original claims 1-4 and 6-10. No new matter is introduced. Furthermore, Applicants have canceled claims 1-4 and 6-10, rendering all of the rejections of these claims moot. However, insofar as the rejections may be applicable to new claims 57-59, Applicants respectfully submit the following remarks.

Claims 1-4 and 6-10 are rejected under 35 U.S.C. §112, first paragraph, for allegedly lacking enabling support in the specification. The Examiner admits that the specification is enabling for a peptide consisting of residues 137-151 of the S protein from strain WT DF2/WT WSU 1146 for differentiating FIPV from FECV. However, the Examiner contends that the specification does not reasonably provide enablement for peptides comprising residues 137-151 or peptides from other related viruses, or for methods of treatment or prophylaxis using any

peptides. The Examiner alleges that the specification does not teach the sequences that can be added to the peptide consisting of amino acids 137-151 while retaining the property of the peptide consisting of amino acids 137-151.

As submitted above, cancellation of claims 1-4 and 6-10 renders the rejection moot. New independent claim 57 recites certain specific peptide fragments of an S protein from FECV or FIPV. All the recited fragments contain the peptide fragment of amino acids 137-151.

Applicants further respectfully submit that the specification provides adequate teaching for peptide fragments of an S protein that include amino acids 137-151. In particular, Applicants direct the Examiner's attention to pages 77-79 of the specification. On pages 77-78 (Example 13), it is described that sera from cats immunized with FIPV strain WT WSU 1146 did not recognize a fusion protein representing amino acids 94-223 of FECV in a Western Blot. In addition, sera from cats infected with FECV did not recognize a fusion protein representing amino acids 94-223 of TS FIPV. However, sera from cats infected with FIPV strain WT WSU 1146 or WT DF2 did recognize such fusion protein representing amino acids 94-223 of TS FIPV. The specification states on page 78, lines 10-13, that specific sequences, such as amino acids 137-151, within the amino acid 94-223 fragment, are useful in differentiating FIPV from FECV. That the protein fragment containing amino acids 94-223 retains the antigenicity of amino acids 137-151 is further confirmed by the experiment described in Example 14 on page 79 of the specification.

Applicants respectfully submit that the peptide consisting of amino acids 137-151 is identified as a core antigenic motif of an S-protein that can differentiate FECV from FIPV. However, the instant disclosure clearly demonstrates, as discussed above, that larger peptide fragments that contain amino acids 137-151 are antigenic as well and are also useful in

distinguishing FECV from FIPV. Accordingly, it is respectfully submitted that the subject matter of new claims 57-59 is fully supported by the specification in compliance with the enablement requirement under 35 U.S.C. §112, first paragraph.

Claims 1 and 2 are rejected under 35 U.S.C. §102(b) as allegedly anticipated by Jacobs et al. The Examiner states that the claims are drawn to an S protein from a coronavirus or a related virus that is useful in diagnosis. According to the Examiner, Jacobs et al. teach an S protein from FIPV and a related virus TGEV.

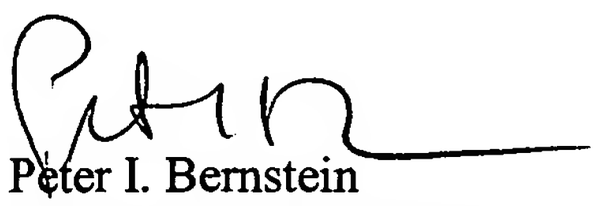
The rejection is rendered moot in view of the cancellation of these claims. Applicants observe that previous claim 6 is not included in the rejection. Applicants respectfully submit that new independent claim 57 has incorporated the limitations recited in previous claim 6. As such, it is respectfully submitted that the §102(b) rejection does not apply to new claims 57-59.

Claims 1-4 and 6-10 are rejected under the judicially created doctrine of obviousness-type double patenting as allegedly unpatentable over claims 1-5 of U.S. Patent No. 6,642,359 B2. The Examiner indicates that although the conflicting claims are not identical, they are not patentably distinct from each other, because they are drawn to identical peptides of residues 137-151 of identical sequence identifier (SEQ ID NO: 32).

Applicants respectfully submit that an obviousness-type double patenting rejection can be overcome by filing a terminal disclaimer. Applicants will submit an appropriate terminal disclaimer once the Examiner indicates otherwise allowable subject matter in the present application.

In view of the foregoing amendments and remarks, it is firmly believed that the subject application is in condition for allowance, which action is earnestly solicited.

Respectfully submitted,



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